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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,999	12/10/2003	Jos Huybrechts	FA1153USNA	9436

23906 7590 10/31/2005

E I DU PONT DE NEMOURS AND COMPANY
LEGAL PATENT RECORDS CENTER
BARLEY MILL PLAZA 25/1128
4417 LANCASTER PIKE
WILMINGTON, DE 19805

EXAMINER	
SASTRI, SATYA B	

ART UNIT	PAPER NUMBER
1713	

DATE MAILED: 10/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/733,999	HUYBRECHTS, JOS	
	Examiner	Art Unit	
	Satya B. Sastri	1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12/10/03,5/31/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: *See Continuation Sheet*.

DETAILED ACTION

1. This office action is in response to application filed December 10, 2003. ***Claims 1-12*** are now pending in the application.

Claim Rejections - 35 USC § 102 and 103

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. ***Claim 1, 4, 6, 8-12*** are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Nienhaus et al. (US 5,670,600).

Nienhaus et al. disclose an aqueous coating composition comprising a water-dilutable polyacrylate resin having an OH number of from 40 to 200 mg of KOH/g, an acid number of from 20-100 mg KOH /g and a polyisocyanate component as crosslinking agent. The polyacrylate may be derived from monomers a1-a6 disclosed in column 7, lines 3-45. The

number average molecular weight of the polymer may range from 2,500 to 20,000 (column 8, lines 44-48). The coating materials may be used in the production- line finishing and in refinishing of car bodies, as pigmented basecoats or clearcoats in a multicoat finishes (column 11, lines 43-57). Organic solvents may be removed from the dispersion by azeotropic distillation in vacuo until not more than 3% can be detected (column 12, lines 64-67).

Since a reaction product of the various monomers is recited in the claim language, it is the examiner's position that the reaction product reads on the polymer recited in the prior art that comprises a reaction product of acrylic or methacrylic acid with glycidyl ester of -branched monocarboxylic acid. Additionally, it is noted that the prior art polymerization composition includes unsaturated acid in addition to the reaction product of acrylic or methacrylic acid with -glycidyl ester of an branched monocarboxylic acid (column 3, lines 1-17, column 7, lines 30-45), thereby satisfying the molar excess requirement of component d) over component a). Thus, the end point range of 200 for OH number is anticipated by the prior art.

In the alternative, since the prior art discloses a reaction product of acrylic or methacrylic acid with glycidyl ester of an monocarboxylic acid as copolymerizable monomer, it is the examiner's position that using the unreacted components that are capable of reacting with each other under polymerization conditions would be obvious to one of ordinary skill in the art.

With regard to ***claim 8***, it is noted that where product by process claims are rejected over a prior art product that appears to be the same, the burden is shifted to applicants to establish an unobvious difference, even if the production processes are different. In re Marosi, 218 USPQ 289 (Fed. Cir. 1983). Furthermore, the patentability of a product clam rests on the

product formed and not on the method by which it is produced. In re Thorpe, 227, USPQ 984 (Fed. Cir. 1985).

5. ***Claims 2, 3*** are rejected under 35 U.S.C. 103(a) as being unpatentable over Nienhaus et al. (US 5,670,600).

Prior art to et al. Nienhaus et al. is presented above in paragraph 4 and is incorporated herein by reference.

The difference between the prior art and the instant invention is that the prior art discloses an OH number of 40-200 as opposed to instantly claimed range of 22-280.

With regard to the claimed OH range outside in excess of 200, it is the examiner's position that one of ordinary skill in the art would be motivated to change the range of OH number to ranges greater than 200 so as to increase the rate as well as extent of crosslinking of the coating composition. Thus, it would have been obvious to one of ordinary skill in that art at the time the invention was made to include polyacrylate resins with OH numbers in excess of 200 and lower than 280 in the coating compositions of Nienhaus et al. and thereby obtain the instant invention.

6. ***Claims 5, 7*** are rejected under 35 U.S.C. 103(a) as being unpatentable over Nienhaus et al. (US 5,670,600) in view of Campbell (US 5,157,069).

Prior art to et al. Nienhaus et al. is presented above in paragraph 4 and is incorporated herein by reference.

The difference between the prior art and the instant invention is that

the prior art does not disclose the use of polyalkylene glycol (meth)acrylate as copolymerizable monomer.

The primary reference concerns crosslinkable aqueous compositions comprising hydroxyl-functional acrylic monomers. Art recognized equivalence of various hydroxylated acrylic monomers is established by Campbell et al. The secondary reference is in an analogous field of art and discloses the use of croslinkable hydroxyl groups that may be derived from hydroxyethyl (meth)acrylate, hydroxybutyl (meth)acrylate, polyethylene glycol mono(meth)acrylate or polypropylene glycol mono(meth)acrylate (column 2, lines 52-64). Thus, it would have been obvious to one of ordinary skill in that art at the time the invention was made to include polyacrylate resins comprising a combination of hydroxyl functional acrylic monomers, including those claimed instantly, in the coating compositions of Nienhaus et al. and thereby obtain the instant invention, absent a showing of unexpected results.

7. ***Claim 1-4, 6, 9-12*** are rejected under 35 U.S.C. 102(b) as being anticipated by Huybrechts et al. (US 5,773,513).

Prior art to Huybrechts et al. relates to waterborne coating compositions comprising hydroxyl functional acrylic polymer comprising 20-70% vinyl aromatic, 0-40% hydroxyl functional monomer, 0-70% of other polymerizable monomers and 10-80% by wt. of monoepoxy ester of an unsaturated functional monomer and curing agent (abstract). The copolymer is preferably prepared via skew feed polymerization wherein one stream comprises 10-50 weight percent of 50-90% by wt. of reaction product of monoepoxyester and an acid functional monomer (column 2, lines 26-55). Useful monomers are listed in column 3, lines 1-

44. Excess solvent from the polymerization medium may be distilled off (column 3, lines 55-57). Useful curing agents disclosed include polyisocyanates (column 4, lines 14-15). The coating compositions are disclosed as being useful as clearcoats in automotive finishes (column 1, lines 6-11). The OH value of the copolymer may range from 30-250 while the acid number may range from 5-35 mg of KOH/g. The molecular wt. of the polymer may range from 1000-15,000 (column 2, lines 61-67). Working example 10 demonstrates a molar excess of acrylic acid compared to versatic acid monoester. Thus, instant claims are anticipated by the prior art.

8. ***Claim 8*** is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Huybrechts et al. (US 5,773,513).

Prior art to Huybrechts et al. is elaborated above in paragraph 7 and is incorporated herein by reference.

With regard to ***claim 8***, it is noted that where product by process claims are rejected over a prior art product that appears to be the same, the burden is shifted to applicants to establish an unobvious difference, even if the production processes are different. In re Marosi, 218 USPQ 289 (Fed. Cir. 1983). Furthermore, the patentability of a product clam rests on the product formed and not on the method by which it is produced. In re Thorpe, 227, USPQ 984 (Fed. Cir. 1985).

9. ***Claims 5, 7*** are rejected under 35 U.S.C. 103(a) as being unpatentable over Huybrechts et al. (US 5,773,513) in view of Campbell (US 5,157,069).

Prior art to Huybrechts et al. is presented above in paragraph 7 and is incorporated herein by reference.

The difference between the prior art and the instant invention is that the prior art does not disclose the use of polyalkylene glycol (meth)acrylate as copolymerizable monomer.

The primary reference concerns crosslinkable aqueous compositions comprising hydroxyl-functional acrylic monomers. Art recognized equivalence of various hydroxylated acrylic monomers in is established by Campbell et al. The secondary reference is in an analogous field and discloses the use of croslinkable hydroxyl groups that may be derived from hydroxyethyl (meth)acrylate, hydroxybutyl (meth)acrylate, polyethylene glycol mono(meth)acrylate or polypropylene glycol mono(meth)acrylate (column 2, lines 52-64). Thus, it would have been obvious to one of ordinary skill in that art at the time the invention was made to include polyacrylate resins comprising a combination of hydroxyl functional acrylic monomers, including those claimed instantly, in the coating compositions of Huybrechts et al. and thereby obtain the instant invention, absent a showing of unexpected results.

10. ***Claims 1, 4, 6, 9-12*** are rejected under 35 U.S.C. 102(b) as anticipated by Bremer et al. (DE 4445355, Machine translation).

Prior art to Bremer et al. discloses a binder comprising a copolymer (A) with an acid number in the range of 25-50 mg KOH/g obtained by copolymerizing 20-35 wt.% of glycidyl ester of alpha branched aliphatic acid, 15-20% of a hydroxyalkyl ester of (meth)acrylic acid, 10-40% of an alkyl ester of (meth)acrylic acid, 8-25% of (meth)acrylic acid and 20-35% of styrene (abstract). As examples of glycidyl ester of alpha branched aliphatic acid, CARDURA E10 is disclosed (page 3, paragraph 0021). The coating composition contains (A) the copolymer, (B) a

polyisocyanate, (C) an organic solvent and/or water and optionally pigments, fillers etc. (abstract). The compositions may be used for transparent or pigmented coatings in automotive industry (page 1, paragraph 0001). The molecular weight of copolymer may range from 2500 to 20,000 and the hydroxyl number, from 80-200 mg KOH/g (page 2, paragraph 0014). The coating compositions may include 15% by wt. of solvent at most. Thus, the end point range of 200 for OH number is anticipated by the prior art.

11. ***Claim 8*** is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Bremer et al. (DE 4445355, Machine translation).

Prior art to Bremer et al. is elaborated above in paragraph 10 and is incorporated herein by reference.

With regard to ***claim 8***, it is noted that where product by process claims are rejected over a prior art product that appears to be the same, the burden is shifted to applicants to establish an unobvious difference, even if the production processes are different. In re Marosi, 218 USPQ 289 (Fed. Cir. 1983). Furthermore, the patentability of a product clam rests on the product formed and not on the method by which it is produced. In re Thorpe, 227, USPQ 984 (Fed. Cir. 1985).

12. ***Claims 2, 3*** are rejected under 35 U.S.C. 103(a) as being unpatentable over Bremer et al. (DE 4445355, Machine translation).

Prior art to et al. Bremer et al. is presented above in paragraph 10 and is incorporated herein by reference.

The difference between the prior art and the instant invention is that the prior art discloses an OH number of 40-200 as opposed to instantly claimed range of 22-280.

With regard to the claimed OH range outside in excess of 200, it is the examiner's position that one of ordinary skill in the art would be motivated to change the range of OH number to ranges greater than 200 so as to increase the rate as well as extent of crosslinking of the coating composition. Thus, it would have been obvious to one of ordinary skill in that art at the time the invention was made to include polyacrylate resins with OH numbers in excess of 200 and lower than 280 in the coating compositions of Bremer et al. and thereby obtain the instant invention.

13. ***Claims 5, 7*** are rejected under 35 U.S.C. 103(a) as being unpatentable over Bremer et al. (DE 4445355, Machine translation) in view of Campbell (US 5,157,069).

Prior art to Bremer et al. is presented above in paragraph 10 and is incorporated herein by reference.

The difference between the prior art and the instant invention is that the prior art does not disclose the use of polyalkylene glycol (meth)acrylate as copolymerizable monomer.

The primary reference concerns crosslinkable aqueous compositions comprising hydroxyl-functional acrylic monomers. Art recognized equivalence of various hydroxylated acrylic monomers in is established by Campbell et al. The secondary reference is in an analogous field and discloses the use of crosslinkable hydroxyl groups that may be derived from hydroxyethyl (meth)acrylate, hydroxybutyl (meth)acrylate, polyethylene glycol mono(meth)acrylate or polypropylene glycol mono(meth)acrylate (column 2, lines 52-64). Thus,

it would have been obvious to one of ordinary skill in that art at the time the invention was made to include polyacrylate resins comprising a combination of hydroxyl functional acrylic monomers, including those claimed instantly, in the coating compositions of Bremer et al. and thereby obtain the instant invention, absent a showing of unexpected results.

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Satya Sastri at (571) 272 1112.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached at (571) 272 1114.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SATYA SASTRI

October 19, 2005

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